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PATENT  
(5181-70200/P5198)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/653,451  
Filed: August 31, 2000  
Inventor(s):  
Slaughter et al

§ Examiner: Unknown  
§ Group/Art Unit: 2152  
§ Atty. Dkt. No: 5181-70200  
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Title: METHOD AND  
APPARATUS TO  
DISCOVER SERVICES  
AND NEGOTIATE  
CAPABILITIES

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, Washington, DC 20231, on the date indicated below.

Robert C. Kowert

Name of Registered Representative

*Robert C. Kowert* Aug. 9 2001  
Signature Date

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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Applicant requests consideration of ☒ the references listed on the attached Form PTO-1449 and/or ☐ the additional information identified below in paragraph 3. A copy of each reference listed on the Form PTO-1449 is enclosed.

1. This Information Disclosure Statement is submitted:

- a. ☐ within 3 months of the filing date of a national application other than a continued prosecution application under § 1.53(d);  
☐ within 3 months of the date of entry of the national stage as set forth in § 1.491 in an International application;  
☒ before the mailing date of a first Office Action on the merits; or  
☐ before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114.
- b. ☐ after the events of above paragraph 1a and prior to the mailing date of a final Office Action or Notice of Allowance, and thus: ☐ the certification of paragraph 2 below is provided, or ☐ a fee of \$180.00 is enclosed.

- c. ☐ after the mailing date of a final Office Action or a Notice of Allowance and prior to payment of the issue fee, and thus: the certification of paragraph 2 below is provided and a fee of \$180.00 is enclosed.

2. It is hereby certified:

☐ that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or

☐ that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in § 1.56 (c) more than three months prior to the filing of the Statement.

3. ☐ Consideration of the following additional information (including any co-pending or abandoned U.S. applications, prior uses and/or sales, etc.) is requested:

4. For each non-English language reference listed on the attached Form PTO-1449:

☐ reference is made to an English language translation submitted herewith, and/or

☐ reference is made to a foreign patent office search report (in the English language) submitted herewith, and/or

☐ reference is made to an English language translation of a foreign patent office search report submitted herewith, and/or

☐ reference is made to the concise explanation contained in the specification of the present application at page(s) \_\_\_\_\_, and/or

☐ reference is made to the concise explanation set forth below:

5. ☐ Applicant also offers the following comments for the Examiner's consideration:

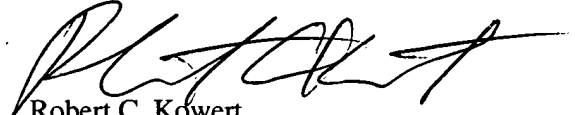
6. ☐ Also enclosed is a copy of a foreign search report citing these references.

7. ☐ The listed documents were brought to the attention of the Applicant(s) after payment of the issue fee in the captioned case. The documents were cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. Applicant(s) request this Information Disclosure Statement and attached Form PTO-1449 be placed in the file of the captioned application.

8. ☐ Applicant(s) requests that the Information Disclosure Statement and attached Form PTO-1449 and references, which are being filed before the grant of the patent and pursuant to 37 C.F.R. § 1.97(i), be placed in the file of the captioned application.

If any required fees are missing, the Commissioner is authorized to charge said fees to Conley, Rose & Tayon, P.C. Deposit Account No. 50-1505/5181-70200.

Respectfully submitted,



Robert C. Kowert  
Reg. No. 39,255  
Attorney for Applicant(s)

CONLEY, ROSE & TAYON, P.C.  
P. O. Box 398  
Austin, Texas 78767  
(512) 476-1400

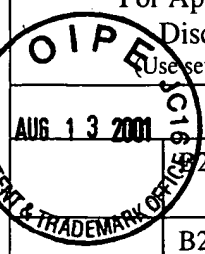
Date: Aug. 9, 2001

<b>Form PTO-1449</b> (modified) List of Patents and Publications For Applicant's Information Disclosure Statement (Use several sheets if necessary)		ATTY. DKT. NO. 5181-70200  APPLICANT: Slaughter et al.  FILING DATE: August 31, 2000	SERIAL NO. 09/653,451  GROUP: 2152
<b>OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
B1	"Java <sup>TM</sup> Remote Method Invocation Specification," Sun Microsystems, Inc., <java.sun.com/products/dk1.2beta1>, 1997.		
B2	Agha, et al., "Actorspaces: An Open Distributed Programming Paradigm," University of Illinois, Report No. UIUCDCS-R-92-1766, Open Systems Laboratory TR NO. 8, pp. 1-12, November 1992.		
B3	Ahmed, et al., "A Program Building Tool for Parallel Applications," Yale University, pp. 1-23, December 1, 1993.		
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B5	Aldrich, et al., "Providing Easier Access to Remote Objects in Distributed Systems," Calif. Institute of Technology, www.cs.Caltech.edu/%7Ejedi/paper.html, Nov. 21, 1997.		
B6	Anderson, et al., "Persistent Linda: Linda + Transaction + Query Processing," Proceedings of the 13 <sup>th</sup> Symposium on Fault Tolerant Systems, pp. 93-109, 1991.		
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B8	Alexander, et al., "Active Bridging," Proceedings of the ACM/SIGCOMM'97 Conference, Cannes, France, September, 1997.		
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B11	Betz, et al., "Interoperable Objects: Laying the Foundation for Distributed Object Computing," Dr. Dobb's Journal, Vol. 19, NO. 11, page 18(13), October 1994.		
B12	Bevan, et al., "An Efficient Reference Counting Solution To The Distributed Garbage Collection Problem," Parallel Computing, NL, Elsevier Science Publishers, Amsterdam, Vol. 9, No. 2, pages 179-192, January 1989.		
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B14	Birrell, et al., "Grapevine: An Exercise in Distributed Computing," Communications fo the ACM, Vol. 25, No. 4, pp. 260-274, April 1982.		
B15	Birrell, et al., "Network Objects," DEC SRC Research Report 115, February 28, 1995.		
B16	Birrell, et al., "Implementing Remote Procedure Calls," ACM Transactions on Computer Systems, Vol. 2, No. 1, pp. 39-59, February 1994.		
B17	Birrell, et al., "Network Objects," Operating Systems Review, 27(5), pp. 217-230, December 1993.		
B18	Cannon, et al., "Adding Fault-Tolerant Transaction Processing to LINDA," Software-Practice and Experience, Vol. 24(5), pp. 449-466, May 1994.		
B19	Cardelli, "Obliq, A Lightweight Language For Network Objects," Digital SRC, pp. 1-37, November 5, 1993.		
B20	Carriero, et al., "Distributed Data Structures in Linda," Principles of Programming Language, pp. 1-16, 1986.		

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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the patent owner.

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	B21	Carriero, et al., "Distributed Data Structures in Linda," Yale Research Report YALEU/DCS/RR-438, November 1985.	
	B22	Chung, et al., "A Tiny' Pascal Compiler: Part 1: The P-Code Interpreter," BYTE Publications, Inc., September 1978.	
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	B25	Deux, et al., "The O2 System," Communications Of The Association For Computing Machinery, Col. 34, No. 10, pages 34-48, October 1, 1991.	
	B26	Dijkstra, "Self-stabilizing Systems in Spite of Distributed Control," Communications of the ACM, Vol 17, No. 11, pp. 643-644, November 1974.	
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	B30	Drexler, et al., "Incentive Engineering for Computational Resource Management," The Ecology of Computation, Elsevier Science Publishers B.V., pp. 231-266, 1988.	
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	B32	Droms, "RFC 1541 Dynamic Host Configuration Protocol," < <a href="http://www.cis.ohio-state.edu.htbin/rfc/rfc1541.html">http://www.cis.ohio-state.edu.htbin/rfc/rfc1541.html</a> >, pages 1-33, October 1993.	
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	B35	Gelernter, "Generative Communication in Linda," ACM Transactions on Programming Languages and Systems, Vol. 7, No. 1, pp. 80-112, January 1985.	
	B36	Gottlob, et al., "Extending Object-Oriented Systems with Roles," ACM Transactions On Information Systems, Vol. 14, NO. 3, pp. 268-296, July 1996.	
	B37	Gray, et al. "Leases: An Efficient Fault-Tolerant Mechanism for Distributed File Cache Consistency," ACM, pp. 202-210, 1989.	
	B38	Guth, "JavaOne: Sun to Expand Java Distriubted Computing Effor," < <a href="http://www.sunworld.com/swol-02-1998/swol-02-sunspots.html">http://www.sunworld.com/swol-02-1998/swol-02-sunspots.html</a> >, XP-002109935, p.1, February 20, 1998.	
	B39	Guyennet, et al., "A New Consistency Protocol Implemented in the CaliF System," IEEE, 1094-7256/97, pp. 82-87, 1997.	

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B40	Guyennet, et al., "Distributed Shared Memory Layer for Cooperative Work Applications," IEEE, 0742-1303/97, pp. 72-78, 1997.		
B41	Hamilton, et al., "Subcontract: A Flexible Base for Distributed Programming," Proceedings of 14 <sup>th</sup> Symposium of Operating System Principles, December 1993.		
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B43	Harris, et al., "Proposal for a General Java Proxy Class for Distributed Systems and Other Uses," Netscape Communications Corp., June 25, 1997.		
B44	Hartman, et al., "Liquid Software: A New Paradigm For Networked Systems," Technical Report 96-11, Dept. of Comp. Sci., Univ. of Arizona, June 1996.		
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B47	Pinakis, "Using Linda as the Basis of an Operating System Microkernel," University of Western Australia, Dept. of Computer Science, pp. 1-165, August 1993.		
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B55	Wilson, et al., "Design of the Opportunistic Garbage Collector," Proceedings of the Object Oriented Programming Systems Languages And Applications Conference, New Orleans, Vol. 24, No. 10, October 1989.		
B56	Wollrath, et al., "A Distributed Object Model for theJaca <sup>TM</sup> System," USENIX Association, Conference on Object-Oriented Technologies and Systems, June 17-21, 1996.		
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B58	Yemini, et al., "Towards Programmable Networks," IFIP/IEEE International Workshop on Distributed Systems: Operations and Management, L'Aquila, Italy, October 1996.		
B59	Yin, et al., "Using Leases to Support Server Driven Consistency in Large-Scale Systems," Computer Services Department, University of Texas at Austin, p. 285-294, May 26-28, 1998.		

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List of Patents and Publications  
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Disclosure Statement  
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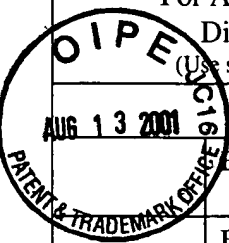
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GROUP: 2152

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**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**



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B61	Mitchell, et al., "An Overview of the Spring System," February 1994.
B62	Mitchell, et al., "Mesa Language Manual," Xerox Corporation, Palo Alto Research Center, 1978.
B63	McDaniel, "An Analysis of a Mesa Instruction Set," Xerox Corporation, May 1982.
B64	McGrath, "Discovery and its Discontents: Discovery Protocols for Ubiquitous Computing," Presented at Center for Excellence in Space Data and Information Science, NASA Goddard Space Flight Center, April 5, 2000.
B65	Mummert, et al., "Long Term Distributed File Reference Tracing: Implementation and Experience," Carnegie Mellon University School of Computer Science, pp. 1-28, November 1994.
B66	Orfali, et al., "The Essential Distributed Objects Survival Guide," Chapter 11: Corba Commercial ORBs, pages 203-215, John Wiley & Sons, Inc., 1996.
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B69	Hunt, "IDF: A Graphical Data Flow Programming Language for Image Processing and Computer Vision," Proceedings of the International Conference on Systems, Man, and Cybernetics, pp. 351-360, Los Angeles, Nov. 4-7, 1990.
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B71	IBM, "Chapter 6 - Distributed SOM (DSOM)," SOMobjects Developer Toolkit Users Guide, Version 2.1, pages 6-1-6-90, October 1994.
B72	Anonymous, "Change-Notification Service for Shared Filed," IBM Technical Disclosure Bulletin, Vol. 36, No. 8, pages 77-82, XP002109435 New York, US, November 1973.
B73	IBM <sup>TM</sup> Technical Disclosure Bulletin, "Retrieval of Qualified Variables Using Extendible Hashing," Vol. 36, No. 12, pp. 301-303, December 1993.
B74	Anonymous, "Resource Preemption for Priority Scheduling," IBM TECHNICAL DISCLOSURE BULLETIN, Vol. 16, No. 6, page 1931, XP002109435 New York, US, November 1973.
B75	IBM <sup>TM</sup> Technical Disclosure Bulletin, "Local Network Monitoring to Populate Access Agent Directory," Vol. 36, No. 09A, pp. 403*405, September 1993.
B76	MUX-Elektronik, Java 1.1 Interactive Course, www.lls.se/~mux/javaic.html, 1995.
B77	Jones, et al., "Garbage Collection: Algorithms for Automatic Dynamic Memory Management," pages 165-175, John Wiley & Sons, 1996.
B78	Kambhatla, et al., "Recovery with Limited Replay: Fault-Tolerant Processes in Linda," Oregon Graduate Institute, Technical Report CSIE 90-019, pp. 1-16, September 1990.
B79	Kay, et al., "An Overview of the Raleigh Object-Oriented Database System," ICL Technical Journal, Vol. 7, No. 4, pp. 780-798, Oxford, GB, November 1991.

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